

25 Years Ago at MSC

Apollo 16 home after busy trip

[Edited from the Space News Roundup April 28, 1970.]

Despite being cut one day short, Apollo 16 ended as gloriously as it started. Its legacy is a wealth of scientific data that will tell man more about his very beginnings, perhaps something about his future.

Astronauts John Young, Thomas Mattingly and Charles Duke accomplished almost everything they set out to do even though they lost about 24 hours from their flight plan.

The change in schedule was made in deference to a potentially faulty thrust vector control system on the service propulsion engine - the rocket needed for the trip home. Because he experienced oscillations in the engine as he checked it out, Mattingly called off the burn that would circularize his orbit at about 70 miles.

While he worked alone in the command module "Casper," Young and Duke lent moral support in the separated lunar module "Orion."

The "go" for landing came almost six hours late, but the touchdown on the dusty, block-strewn Descartes was perfect. "Old Orion is finally here, Houston." Duke exclaimed at 8:23 p.m. CST April 20.

The journey to Descartes started more than four days earlier. Liftoff from Pad A at the Kennedy Space Center in Florida was right on time —11:54 a.m. Sunday April 16, 1972.

A little more than two and a half hours later, the crew performed the translunar injection burn that headed them toward the moon.

Paint flaking from the ascent stage of Orion, a lockup in Casper's navigation system and a balky steerable antenna on Orion were other pesky difficulties encountered before landing, but they proved far less worrisome than the thrust vector control situation.

But, once on the surface, Young and Duke turned their attention to exploration.

The first extravehicular activity, during which the lunar roving vehicle was assembled, the Apollo lunar surface experiments package (ALSEP) deployed, the U.S. flag raised and the solar wind composition experiments erected, lasted 7 hours and 11 minutes.

The rover logged 4.2 kilometers of lunar travel, and the explorers collected 41 pounds of rock and dust samples.

EVA Two lasted 12 minutes longer than the first, and sample weight was exactly double. Rover travel was 11.5 kilometers.

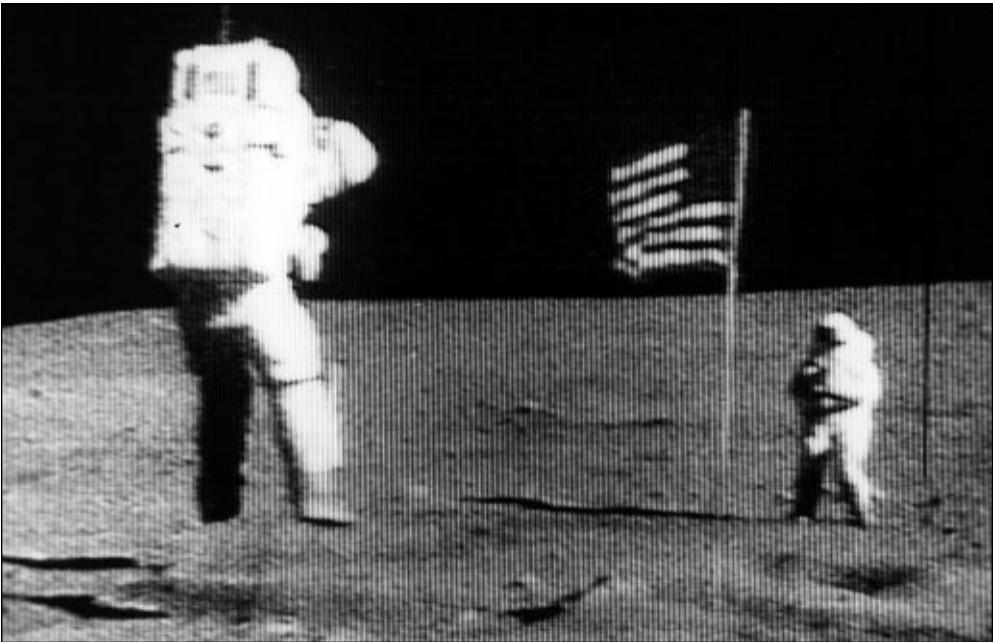
Young picked up a rock and made Earth-bound scientists perk up with "This is the first one I've seen I really believe is crystalline."

The pair also scooped up a special sample from under a lunar boulder.

The third and final surface exploration was the shortest—5 hours and 40 minutes—but perhaps the most spectacular.

When they reached North Ray Crater, Young and Duke found it an awesome sight, three-quarters of a mile across and more than 200 yards deep, the general vicinity spotted with massive boulders.

Collected samples weighed about 90



NASA Photos S72-35611 and S72-35610

Above: Casper's passengers were as happy to get home as "Jumping Jack" Young was to get to the Moon. Center: Young sets up the lunar portable magnetometer during the first of three lunar extravehicular activities.

pounds, bringing the three-day total to 212 to 214. Distance covered in the rover totaled 27.1 kilometers, about 16.8 miles. And time on the three EVAs added up to 20 hours 14 minutes.

Mattingly was equally busy with his mapping. After lunar liftoff, televised by the remotely controlled camera on the rover, and rendezvous and docking with the command module, Mattingly reported that "morale around here just went up a couple hundred per cent."

Apparently the thrust vector control problem had not been forgotten.

Apollo 16 headed home at 8:27 Monday evening. When the craft rounded the moon and radio contact was reestablished, Orion was turned loose. It immediately started a slow tumbling. The trouble was an improperly posi-

tioned circuit breaker. Without attitude control, the LM ascent stage could not be impacted onto the moon as planned. It is expected to fall from orbit on its own in about 200 days.

The subsatellite, with its scientific equipment, was injected into lunar orbit, but no radio contact could be made with it since its frequency was the same as the lunar module.

On the homeward leg, Mattingly got his own chance to conduct an EVA. He spent a bit more than an hour outside, retrieving film from the scientific instrument module and activating the microbial response experiment.

With splashdown in the Pacific some 175 miles southeast of Christmas Island, Apollo 16 became history. Only one manned flight to the moon remains on the schedule.

Gilruth Center News

New Hours: The Gilruth Center will now remain open until 2 p.m. Saturday and close at 9 p.m. Friday.

EAA badges: Required for use of the Gilruth Center. Employees, spouses eligible dependents, NASA retirees and spouses may apply for photo identification badges from 7:30 a.m.-9 p.m. Monday-Friday; and 9 a.m.-2 p.m. Saturdays. Cost is \$10. Dependents must be between 16 and 23 years old.

Volleyball, Basketball: Registration is currently being accepted for the summer leagues.

Softball: Registration is under way for men's double-header softball league. Cost is \$275 per team for a six to seven week season.

NASA Fitness Challenge: runs through Aug. 31. Call x30301 for more information.

Complete Weight Control Program: starts June 24 with sessions on Monday, Wednesday and Friday. For more information call x30301 or x30302.

Hatha Yoga: A stress relieving, stretching and breathing exercise routine to unite body, mind and spirit. Classes meet from 5:30-6:30 p.m. Thursdays. Cost is \$40 for eight weeks.

Nutrition intervention program: A six-week program to learn more about the role diet and nutrition play in health, including lectures, private consultations with a dietitian and blood analysis. Program is open to all employees, contractors and spouses. For more information call Tammie Shaw at x32980.

Defensive driving: One-day course is offered once a month. Pre-registration is required. Cost is \$25.

Stamp club: Meets at 7 p.m. every second and fourth Monday in Rm. 216.

Weight safety: Required course for employees wishing to use the weight room will be offered from 8-9:30 p.m. May 22. Pre-registration is required. Cost is \$5. Annual weight room use fee is \$90. Additional family members are \$50.

Exercise: Low-impact class meets from 5:15-6:15 p.m. Mondays and Wednesdays. Cost is \$24 for six weeks.

Aikido: Martial arts class meets from 5:15-6:15 p.m. Tuesday and Wednesday. Cost is \$35 per month. New classes begin the first of each month.

Aerobics: Classes meet from 5:15-6:15 p.m. Tuesdays and Thursdays. Cost is \$32 for eight weeks.

Ballroom dancing: Beginner classes meet from 7-8:15 p.m. Thursdays. Intermediate and advanced classes meet from 8:15-9:30 p.m. Cost is \$60 per couple.

Country and western dancing: Beginner class meets 7-8:30 p.m. Monday. Advanced class meets 8:30-10 p.m. Monday. Cost is \$20 per couple.

Fitness program: Health Related Fitness Program includes a medical screening examination and a 12-week individually prescribed exercise program. For more information call Larry Wier at x30301.

Gilruth Home Page: Check out all activities at the Gilruth online at: <http://www4.jsc.nasa.gov/ah/exceaa/Gilruth/Gilruth.htm>

Ticket Window

The following discount tickets are available for purchase in the Bldg. 11 Exchange Store from 10 a.m.-2 p.m. Monday-Thursday and 9 a.m.-3 p.m. Friday. For more information, call x35350 or x30990.

Houston Astros Baseball: Field box seats \$18. Astros vs. Chicago Cubs 7 p.m. June 21. Purchase tickets by June 13. Astros vs. Cleveland Indians 7 p.m. July 2. Purchase tickets by June 23.

EAA cruises: Seven-day cruise to Alaska for \$1,294 per person May 23-31 or June 20-28. Seven-day cruise to Caribbean leaving from Houston in November. Prices vary depending on cabin choices. For more information call Dick McMinimy at x34037.

Astroworld: Early bird tickets are \$18.25 and must be used by May 31. Season pass \$56.75.

Moody Gardens: Tickets are \$9.50 for 2 of 3 events.

Space Center Houston: Adult \$8.95; children (4-11) \$6.40.

Seaworld: Adult \$27.25; \$18.25 children(3-11).

Schlitterbahn: Tickets are \$20.25 for adults, \$17.50 for children.

Splashtown: Early bird tickets are \$11.50.

Movie discounts: General Cinema, \$4.75; AMC Theater, \$4.50; Sony Loew's Theater, \$4.75.

JSC logo shirts: Polo style, \$23. T-shirt, \$10.

Stamps: Book of 20, \$6.40.

Orbit: The book "Orbit" by Jay Apt, Mike Helfert and Justin Wilkinson is on sale for \$28.

Metro tickets: Passes, books and single tickets available.

Summer leagues now forming

The Gilruth Center is now accepting registration for summer leagues in basketball and volleyball and forming a double header league in men's softball.

Employees have the opportunity to play basketball in men's C on Monday or Thursday, men's B on Tuesday or over 35 on Wednesday. Cost is \$315 per team and must be paid at the time of sign up. The Gilruth Center requires two or more players to have Employee Activities Association badges or blue outside player badges in their possession at all times. Registration ends May 14.

Volleyball leagues also are forming for summer play. Employees may play volleyball in mixed B on Monday; mixed C on Tuesday; women's on Wednesday; or men's on Thursday. Registration fee is

\$175 per team and must be paid at the time of registration. Volleyball leagues also require EAA badges. Registration ends May 17.

In addition to the summer leagues, a men's double-header softball league also is forming and will play on Monday and Thursday. Registration will close once the league has enough teams. The season will run for about six to seven weeks. The team with the best win loss record will receive T-shirts. Existing teams in other leagues are eligible for this league. The Gilruth Center requires five or more players to have Employee Activities Association badges in their possession at all times. Registration fee is \$275.

For more information on these leagues, call the Gilruth at x33345.

Next blood drive set for June

The next JSC Onsite Blood Drive is set for June 3 and 4 and employees are encouraged to give the gift of life.

Employees wishing to donate blood can visit the Teague Auditorium lobby anytime between 7:30 a.m. and 3:30 p.m. on June 3, including lunch time, or 8 a.m. until noon on June 4. Appointments are only necessary if employees plan on donating platelets or plasma, but no appointments are necessary for whole blood donations.

Generally, donors can give blood every eight weeks. In some cases a donor may be deferred if, for example, their blood is low in iron or they've been on certain medications. If prospective donors have questions about how a medical condition may affect their ability to give blood they can call St. Luke's Blood Donor Center at 791-4483.

Under the St. Luke's agreement with NASA and contractors, the hospital provides blood assurance coverage for all JSC personnel and their immediate families. Coverage includes all fees associated with blood products for blood transfused in any Houston area hospital.

Immediate family is considered to be the spouse of an employee, any dependent children and parents of an employee and spouse.

"The JSC Blood Drive Program and St. Luke's Episcopal Hospital would like to thank those of you who have taken the time to donate blood during the past year," said Dan Mangieri, coordinator for the drive. "There is no substitute for human blood, and a sufficient, safe supply is vital to the well-being of JSC employees, Houston and our surrounding communities.

"Since we've expanded the hours for donors to give blood, and changed the location of the event to the Teague Auditorium, we've held four blood drives. During that time we've had a total of 1,503 blood donations. In comparison, during the four blood drives in the same period of the prior year, the center drew only 334 donations. The JSC on-site blood drive has become a huge success as a result of your generosity. We look forward to your continued support," Mangieri said.

For more information about the JSC on-site blood drive call Mangieri at x33003.